Bellwork: 3/22/13

Simplify the following rational expression:

$$\frac{3x^2+11x+10}{x^2+8x+12} \div \frac{9x^2-25}{x^2+x-30}$$

$$\frac{(3x+5)(x+2)}{(x+6)(x+2)} \cdot \frac{(x+6)(x-5)}{(3x-5)(3x+5)}$$

$$\frac{x-5}{3x-5}$$

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Divide and simplify each of the following expressions.

1) $\frac{x^2-25}{2x} \div \frac{3x+15}{12x^2-24x} =$

$$\frac{(x+5)(x-5)}{2x} \cdot \frac{12x(x-2)}{3(x+5)}$$

$$\frac{6(x-5)(x-2)}{3} = 2(x-5)(x-2)$$

2) $\frac{5x-15}{x^2-25} \div \frac{2x}{x^2+5x} =$

$$\frac{5(x-3)}{(x+5)(x-5)} \cdot \frac{x(x+5)}{2x} = \frac{5(x-3)}{2(x-5)}$$

3) $\frac{x^2-7x+10}{x-1} \div \frac{3x^2-6x}{x^2-1} =$

$$\frac{(x-5)(x-2)}{x-1} \cdot \frac{(x+1)(x-1)}{3x(x-2)}$$

$$\frac{(x-5)(x+1)}{3x}$$

4) $\frac{x^2-7x+6}{x+3} \div \frac{x^2-5x-6}{x+3} =$

5) $\frac{x^2-2x-8}{4x^2+8x} \div \frac{(x^2+x-20)}{1} =$

$$\frac{(x+2)(x-4)}{4x(x+2)} \cdot \frac{1}{(x+5)(x-4)}$$

$$\frac{1}{4x(x+5)}$$

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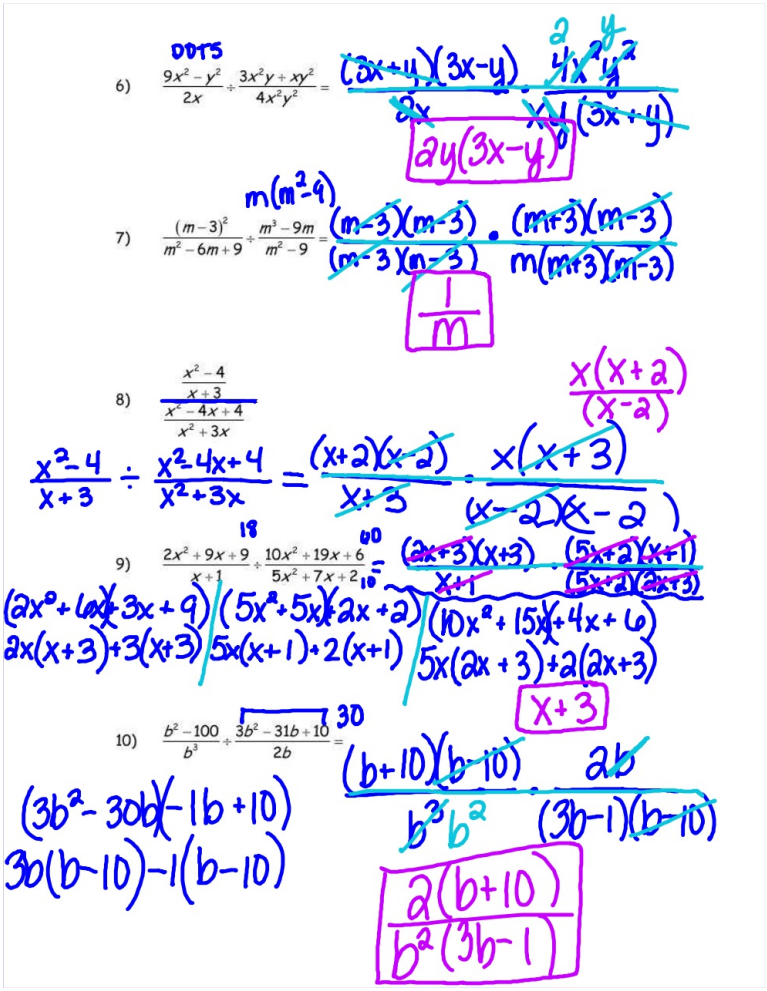

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